WORKSHOP SUMMARY

EPA and the natural gas industry gathered in Houston, Texas, to celebrate the continued growth of the Natural Gas STAR Program and the success of this voluntary partnership. More than 70 participants attended the 7th Annual Natural Gas STAR Implementation Workshop.

Highlights from the workshop included: keynote presentations from Georgia Callahan, Vice President, Environment and Health at Texaco, Inc. and John Shafer, Vice President, Environmental Health and Safety at Enron Transportation Services; presentations from partner companies on methane reduction projects and tips for successful program implementation; highlights of new program implementation and communications tools; an update from New York State Energy Research and Development Authority (NYSERDA) on four regional demonstration projects for independent producers; and preliminary results from a Gas Technology Institute (GTI) study on leak detection and repair (LDAR) approaches for gathering and processing facilities.

This year's workshop also focused on the importance of communicating Natural Gas STAR participation and accomplishments to employees, customers, and stakeholders. Specifically the workshop devoted two sessions to assist partners with internal and external efforts to promote program successes. One session introduced partners to the Natural Gas STAR Program's new Web-based Communication Toolkit. During the second session, Margaret Bonner from DDB and John Paluszek from Ketchum spoke about the value of promoting environmental accomplishments to consumers and stakeholders.

Avis Robinson, Deputy Director of EPA's Office of Atmospheric Programs, recognized the outstanding accomplishments of all partners as the Natural Gas STAR Team presented the 2000 Partner of the Year Awards during a special awards and recognition luncheon held on Thursday, October 12. The 2000 Partner of the Year recipients included:

- Kerr-McGee Oil and Gas Corporation (Production Sector)
- Columbia Transmission Segment (Transmission Sector)
- Bay State Gas Company (Distribution Sector)

EPA also recognized and welcomed to the program 10 new production, transmission, and distribution partners:

- Belco Energy Corporation
- Duke Energy Gas Transmission
- Ocean Energy, Inc.

New partners (con't)

- PG&E National Energy Group
- Pioneer Natural Resources USA, Inc., Domestic Operations
- Questar Pipeline Company
- TXU Electric & Gas
- TXU Lone Star Pipeline
- Unocal Corporation
- Williston Basin Interstate Pipeline Company

EPA also formally launched the Natural Gas STAR Program's new gathering and processing sector by recognizing and welcoming the nine charter partners. These included:

- BP
- Conoco, Inc.
- Dynegy Midstream Services, L.P.
- El Paso Field Services
- ExxonMobil Production Company
- ONEOK Field Services
- Pioneer Natural Resources USA, Inc., Gas Processing
- Texaco Exploration and Production, Inc.
- UtiliCorp United, Inc.

Sponsorship

EPA extends its gratitude to the organizations that graciously cosponsored this year's workshop:

- American Gas Association
- American Petroleum Institute
- INDACO Air Quality Services, Inc.

Wednesday, October 11

New/ Prospective Partner Orientation

Jon Passe, EPA Natural Gas STAR program manager, provided an overview of the program, including joining, developing an implementation plan, preparing an annual report, and communicating program accomplishments. He also highlighted the Natural Gas STAR Program results for 2000, noting that partners have reduced 117.6 billion cubic feet (Bcf) since the program began, including a reduction of 27 Bcf in 1999 alone. In addition, he described the program's recent growth in membership and the introduction of the gathering and processing sector.

To help new partners successfully establish Natural Gas STAR programs, Mr. Passe reviewed partner responsibilities and demonstrated the optional implementation plan and annual reporting forms. He also introduced partners to several program services, including a preview of new services such as the redesigned Web site, the communications toolkit, and descriptions of upcoming Superior Implementation Case Studies on Kerr-McGee Oil and Gas Corporation, Columbia Transmission Segment, and Spirit Energy 76 (a division of Unocal).

Thursday, October 12

EPA Opening Remarks

Paul Gunning, EPA Natural Gas STAR program manager, welcomed participants to the workshop and highlighted program accomplishments, attributing success to the active participation and enthusiasm of the partners. He highlighted the unprecedented growth of the program in 2000, noting that the program now has achieved more reductions, expanded to new sectors, increased the number of partners as well as the percentage of the industry represented, and developed valuable new implementation tools. At the same time, he acknowledged that this growth brings with it more challenges to continue to demonstrate that voluntary partnership approaches provide effective means to meet environmental goals.

Keynote Address – Georgia Callahan, Vice President, Environment and Health, Texaco, Inc.

Georgia Callahan described Texaco's commitment to actively addressing climate change through involvement in Natural Gas STAR and a variety of other energy-related projects. She highlighted that the company's Natural Gas STAR pilot program at its Gulf Coast Regional facilities achieved methane reductions totaling 860,000 million cubic feet (Mcf), valued at $1.7 million in savings. The main activities contributing to these reductions included replacing high-bleed pneumatics, installing flash tank separators on glycol dehydrators, eliminating flash gas emissions from treaters and storage tanks, and converting or replacing pneumatic pumps. She attributed Texaco's success to focusing on one region initially, using a cooperative approach, and decentralizing implementation decisions. Future plans for Texaco include expanding the program globally.

Default Values Analysis

Don Robinson of ICF Consulting presented the preliminary results of a recent analysis of EPA's default values for the program's Best Management Practices (BMPs). The rationale for conducting this assessment of program default values is that accurate default values are critical to program credibility and no major re-evaluation of the initial default values had been done to date. The availability of new information from recent studies and partner-reported data provided the opportunity to re-examine these values. Initial findings indicated that EPA should consider revising default values for transmission and distribution BMP 3 (directed inspection and maintenance at compressor stations) and producer BMP 2 (installing flash tank separators). For these BMPs, Mr. Robinson demonstrated the proposed new default value and explained the assumptions and calculations used to develop it. The analysis

also studied leak rates of high-bleed pneumatics using Hi-Flow Samplers. Initial results suggest that further study is needed on pneumatics. Mr. Robinson also outlined the Natural Gas STAR Program's methodology for determining sunset values for BMPs and Partner Reported Opportunities (PROs).

GTI LDAR Project at Processing/Gathering Facilities

Jim McCarthy from the Gas Technology Institute (GTI) provided an overview of GTI's alternative approach to leak detection and repair (LDAR) using Hi-Flow Samplers and prioritizing leak repair projects rather than applying the conventional approach using Method 21 at gathering and processing facilities. GTI's study found that processing sector leaks follow the same pattern as transmission findings in which a small number of leaks are responsible for a large portion of leakage volumes. GTI is working with industry host sites to establish whether this new LDAR approach of identifying, quantifying, and prioritizing leak repairs with respect to size, value of gas, and payback period can be applied successfully in the gathering and processing sector.

Reid Smith from BP then described his company's participation as a host facility at a site in Wyoming. He noted that this demonstration project coordinated with BP's commitment to reduce GHG emissions through a variety of strategies including emissions trading and technology sharing. Emissions testing recently began at the facility and is expected to be completed by December. Mr. Smith noted that BP was a good selection because part of the facility had already had a conventional LDAR program in place. As a result, the study can compare the conventional approach directly with GTI's alternative LDAR approach. Future plans for the study include comparing Hi-Flow Sampler results with Infrared Spectrometers results.

NYSERDA Demonstration Projects

John Martin of the New York State Energy Research and Development Authority (NYSERDA) and Jonathan Kelafant from Advanced Resources International updated attendees on four NYSEDRA demonstration projects that were initiated to encourage independent producers to implement methane reduction activities. Mr. Martin noted that independent producers are an important focus because although they drill nearly two-thirds of the gas wells in the country, often they do not have the resources to invest in long-term greenhouse gas (GHG) reduction projects. Establishing demonstration projects and case studies can help promote technology transfer for such companies, reducing the need for them to reinvent the wheel and demonstrating the cost savings for them. Mr. Kelafant highlighted the activities implemented, the methane reduced, and the payback period at each demonstration site. The four sites were Lenape Resources in Alexander, New York; Paxton Resources in Gaylord, Michigan; Trinity Energy in Pittsburgh, Pennsylvania; and Union Pacific Resources (now part of Anandarko) in Fort Worth, Texas.

Partner Experiences

- **Columbia Transmission Segment.** Warren Bird presented an overview of the operations at Columbia Gas Transmission and Columbia Gulf Transmission that comprise the Columbia Transmission Segment. He explained that the Natural Gas STAR Program is good for industry because it links principles to action and provides added value for employees at all levels of the company. He described how the company collected and quantified past emissions data by incorporating Natural Gas STAR data reporting into its existing database for air emissions. In addition, the company documented all assumptions and measurements to ensure that results were verifiable and replicable. He presented Columbia's 1999 accomplishments and attributed Columbia's success to internal and external benchmarking, documentation and verification of emission reductions, integration of Natural Gas STAR activities into an existing Environmental Excellence Program and air emission data collection systems, and recognizing the contributions from field personnel.

- **Spirit Energy 76 (a division of Unocal).** James Frederick presented the accomplishments of several Spirit Energy 76 pilot projects and how the success of these pilot programs has encouraged Unocal to expand the Natural Gas STAR Program corporate wide. Mr. Frederick highlighted two specific projects: the first involved switching to instrument air at the Fresh Water Bayou field and the second involved retrofitting two valves with Mizer slow-bleed controllers at one offshore platform. By starting with small pilot projects and demonstrating results, the company was able to ensure operators that the project would save them time and energy in addition to reducing gas loss. He also attributed program success to including measurement technicians on the STAR team. In addition, Mr. Frederick acknowledged that participation in STAR has helped Spirit Energy 76 publicize its methane reduction achievements.

- **BP.** Reid Smith described how BP developed its extensive emissions inventory and initiated an internal cap and trade system to help the company meet its commitment to reduce GHG emissions to be 10 percent of 1990 levels by 2010. He outlined BP's inventory process, which emphasizes the need to identify and quantify sources, verify results internally and through external audits, and ensure transparent reporting. He presented BP's accomplishments and acknowledged several challenges the company encountered during the inventory process. Some of the challenges included establishing the scope of data collection and the level of detail needed. To address these challenges, he recommended allocating more time and resources than initially expected, keeping data collection systems flexible, maintaining consistency among staff, and maintaining transparency with stakeholders.

- **Kerr-McGee.** Stuart Wittenbach presented Kerr-McGee's keys to establishing an effective STAR program and described how the company successfully transitioned its program to new facilities during the 1999 merger with Oryx Energy. Kerr-McGee attributes its success to senior management support, central management from the division level, and support from operations and field groups. He emphasized team efforts, especially building alliances between environmental specialists and field personnel and

the need for field visits to stay current with practices and technologies. He acknowledged that the commitment of the company's Environmental Excellence Team to Natural Gas STAR played a crucial role in implementing the program. The EE Team also helped promote methane reduction accomplishments internally and make new employees aware of the company's participation in the Natural Gas STAR Program.

Partner Roundtables

Attendees split into two groups to discuss sector-specific items and general program issues. At each group, EPA asked for partner feedback on program plans to develop online reporting and data collection tools. At the Producer and Processing Roundtable, discussion focused on Spirit Energy 76's Mizer retrofit project and other technical issues. At the Transmission and Distribution Roundtable, discussion focused on the use of clock spring repair and its applicability for both sectors.

Friday, October 13

Keynote Address - John Shafer, Vice President, Environmental Health and Safety, Enron Transportation Services

Mr. Shafer described Enron's Natural Gas STAR program accomplishments and how the company promoted these results in the company's annual report to stakeholders. The main component of Enron's methane reduction program involves using Hi-Flow Samplers to quantify leak rates at compression stations and implementing activities to capture gas that is not accounted for. Primary advantages of identifying and quantifying reductions include increasing the amount of gas available for sale and documenting results so they can be sold as GHG emissions credits. He outlined several issues essential to Enron's cap and trade concept and explained how the contractor working on the project, INDACO Air Quality Services, Inc., offered to accept title to the quantified emission credits as payment for the survey work performed. He also emphasized that the gas industry needs to play a role in setting trading standards and establishing emission credit legislation.

New PROs for 2000

Don Robinson of ICF Consulting presented 10 new draft Partner Reported Opportunities (PRO) fact sheets that EPA developed based on activities reported by partners. He unveiled the new format of the PRO fact sheets, designed to help implementation managers more easily determine which activities might be applicable at their operations. He noted the addition of "methane savings per unit of application" as an item on the form, emphasizing how it will facilitate applying results from the fact sheet to specific operations. He also noted that the new format includes the names of the companies reporting the PRO as well as any related PROs to facilitate information sharing among partners.

The new fact sheets addressed the following PROs:

- Install Excess Flow Valves
- Insert Gas Main Flexible Liners
- Design Isolation Valves to Minimize Gas Blowdown Volumes
- Move Fire Gates in to Reduce Venting at Compressor Stations
- Replace Glycol Dehydrator With Separators and In-Line Heaters
- Require Improvements in the Quality of Gas Received from Producers
- Close Main Valves and Unit Valves Prior to Blowdown
- Use of Clockspring Repair
- Install Evactor
- Install Velocity Tubing Strings

Communications Toolkit

Kathy Manger of the Cadmus Group introduced partners to the program's new Web-based Communications Toolkit. She explained that the Toolkit offers invaluable tools to help partners promote their accomplishments internally as well as externally. The new Toolkit offers templates for press releases, Web site content, newsletter articles, and annual report text. The Toolkit also presents samples from partner press releases and newsletters and offers easy access to presentation materials, links to program implementation forms, and the Natural Gas STAR logo. As the Communications Toolkit is an evolving tool, all partners are encouraged to submit ideas for future tools and examples of how they have used the existing tools.

Communicating Natural Gas STAR Success

Distinguished speakers from two public relations firms addressed partners regarding the importance of communicating environmental accomplishments to stakeholders and consumers. Margaret Bonner from DDB emphasized that partners should stress their partnership with EPA as an asset. She provided statistics to show that environmental performance is an essential part of consumer behavior and gaining public trust. John Paluszek from Ketchum described how Dow Chemical was able to change public perception about their performance through applied communications and by demonstrating in a public report that the company was taking proactive steps towards sustainable development. He stressed that Dow provided third-party verification of all accomplishments.